

MULTIPLE MODE ACCELERATING AGENT FOR CEMENTITIOUS MATERIALS

Abstract of the Disclosure

A multiple mode cement set accelerating agent is provided. The accelerating agent includes a carrier fluid component having accelerator properties and CO₂ gas sequestered in the carrier fluid. The accelerator components of the carrier fluid speed up the cement setting reaction. Additionally, CO₂ gas is released from the carrier fluid during cement hydration to further accelerate the hydration reaction. In certain implementations, the carrier fluid is an alkanolamine solution and the cement set accelerating agent operates through a combination of alkali activation and carbonation. The multiple mode cement cure accelerating agent can be applied to pre-selected regions of green shaped cementitious articles to form partially cured zones in the article prior to curing of the green shaped article.